

**UTILITY PATENT APPLICATION TRANSMITTAL**  
**(Large Entity)***(Only for new nonprovisional applications under 37 CFR 1.53(b))*Docket No.  
03 P 52507 US (90035.211)

Total Pages in this Submission

**TO THE COMMISSIONER FOR PATENTS**Mail Stop Patent Application  
P.O. Box 1450  
Alexandria, VA 22313-1450

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

**DRAM VERTICAL TRANSISTOR AND TRENCH CAPACITOR MEMORY CELLS AND METHOD OF FABRICATION**

and invented by:

**Venkatachalam C. JaiPrakash, Mihel Seitz and Norbert Arnold**If a **CONTINUATION APPLICATION**, check appropriate box and supply the requisite information:☐ Continuation ☒ Divisional ☐ Continuation-in-part (CIP) of prior application No.: 09/731,343

Which is a:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Which is a:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Enclosed are:

**Application Elements**

1. ☒ Filing fee as calculated and transmitted as described below
2. ☒ Specification having 18 pages and including the following:
  - a. ☒ Descriptive Title of the Invention
  - b. ☒ Cross References to Related Applications *(if applicable)*
  - c. ☐ Statement Regarding Federally-sponsored Research/Development *(if applicable)*
  - d. ☐ Reference to Sequence Listing, a Table, or a Computer Program Listing Appendix
  - e. ☒ Background of the Invention
  - f. ☒ Brief Summary of the Invention
  - g. ☒ Brief Description of the Drawings *(if filed)*
  - h. ☒ Detailed Description
  - i. ☒ Claim(s) as Classified Below
  - j. ☒ Abstract of the Disclosure

17354 U.S. PTD  
10/6/17511

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03 P 52507 US (90035.211)

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## Application Elements (Continued)

3. ☒ Drawing(s) (when necessary as prescribed by 35 USC 113)
- a. ☒ Formal                      Number of Sheets                      19
- b. ☐ Informal                      Number of Sheets                      \_\_\_\_\_
4. ☒ Oath or Declaration
- a. ☐ Newly executed (original or copy)                      ☐ Unexecuted
- b. ☒ Copy from a prior application (37 CFR 1.63(d)) (for continuation/divisional application only)
- c. ☒ With Power of Attorney                      ☐ Without Power of Attorney
- d. ☐ DELETION OF INVENTOR(S)  
Signed statement attached deleting inventor(s) named in the prior application,  
see 37 C.F.R. 1.63(d)(2) and 1.33(b).
5. ☐ Incorporation By Reference (usable if Box 4b is checked)  
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
6. ☐ CD ROM or CD-R in duplicate, large table or Computer Program (Appendix)
7. ☐ Application Data Sheet (See 37 CFR 1.76)
8. ☐ Nucleotide and/or Amino Acid Sequence Submission (if applicable, all must be included)
- a. ☐ Computer Readable Form (CRF)
- b. ☐ Specification Sequence Listing on:
- i. ☐ CD-ROM or CD-R (2 copies); or
- ii. ☐ Paper
- c. ☐ Statement(s) Verifying Identical Paper and Computer Readable Copy

## Accompanying Application Parts

9. ☒ Assignment Papers (cover sheet & document(s)) Copy from Prior Application (09/731,343)
10. ☐ 37 CFR 3.73(B) Statement (when there is an assignee)
11. ☐ English Translation Document (if applicable)
12. ☒ Information Disclosure Statement/PTO-1449                      ☐ Copies of IDS Citations
13. ☒ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
16. ☒ Certificate of Mailing
- ☐ First Class    ☒ Express Mail (Specify Label No.): EU 938685724 US

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(Large Entity)**

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

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**Accompanying Application Parts (Continued)**

17. ☒ Additional Enclosures *(please identify below)*:

Please cancel claims 1-5 in the prior application before calculating the filing fees below.

**Request That Application Not Be Published Pursuant To 35 U.S.C. 122(b)(2)**

18. ☐ Pursuant to 35 U.S.C. 122(b)(2), Applicant hereby requests that this patent application not be published pursuant to 35 U.S.C. 122(b)(1). Applicant hereby certifies that the invention disclosed in this application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication of applications 18 months after filing of the application.

**Warning**

***An applicant who makes a request not to publish, but who subsequently files in a foreign country or under a multilateral international agreement specified in 35 U.S.C. 122(b)(2)(B)(i), must notify the Director of such filing not later than 45 days after the date of the filing of such foreign or international application. A failure of the applicant to provide such notice within the prescribed period shall result in the application being regarded as abandoned, unless it is shown to the satisfaction of the Director that the delay in submitting the notice was unintentional.***

07/11/03

13408 U.S. PTO

**UTILITY PATENT APPLICATION TRANSMITTAL  
(Large Entity)***(Only for new nonprovisional applications under 37 CFR 1.53(b))*

Docket No.

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**Fee Calculation and Transmittal****CLAIMS AS FILED**

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	5	- 20 =	0	x \$18.00	\$0.00
Indep. Claims	2	- 3 =	0	x \$84.00	\$0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$750.00
OTHER FEE (specify purpose)					\$0.00
TOTAL FILING FEE					\$750.00

- ☐ A check in the amount of \_\_\_\_\_ to cover the filing fee is enclosed.
- ☐ The Director is hereby authorized to charge and credit Deposit Account No. \_\_\_\_\_ as described below.
- ☐ Charge the amount of \_\_\_\_\_ as filing fee.
- ☐ Credit any overpayment.
- ☐ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
- ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

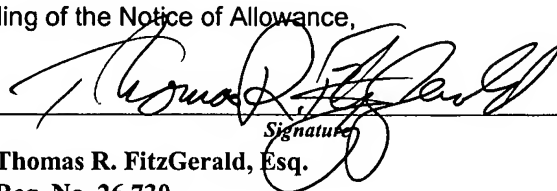
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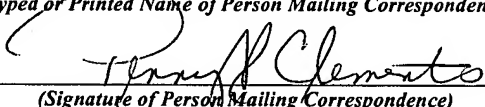


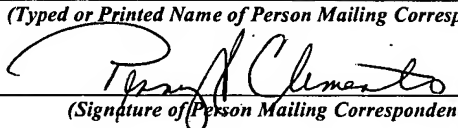
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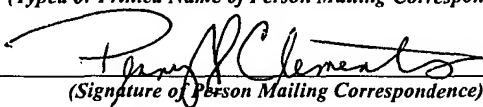
PATENT TRADEMARK OFFICE

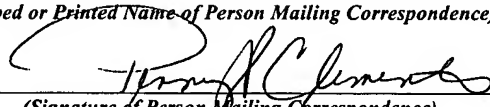
CC:

  
Signature  
Thomas R. FitzGerald, Esq.  
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16 E. Main St., Suite 210  
Rochester, New York 14614-1803  
Telephone: (585) 454-2250  
Fax: (585) 454-6364

<b>CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)</b> Applicant(s): V. C. JaiPrakash, et al.			Docket No. 03P52507US (90035.211)	
Serial No. TBA	Filing Date Filed Herewith	Examiner TBA	Group Art Unit TBA	
Invention: <b>DRAM VERTICAL TRANSISTOR AND TRENCH CAPACITOR MEMORY CELLS AND METHOD OF FABRICATION</b>				
<p>I hereby certify that the following correspondence:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"><b>Copy of Declaration/Power of Attorney from Prior Application (total 3 pages)</b></div> <p style="text-align: center;"><i>(Identify type of correspondence)</i></p> <p>is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on</p> <p style="margin-left: 150px;"><u>July 11, 2003</u> <small>(Date)</small></p> <div style="text-align: center; margin-top: 20px;"><div>Penny P. Clements <small>(Typed or Printed Name of Person Mailing Correspondence)</small></div><div> <small>(Signature of Person Mailing Correspondence)</small></div><div>EU 938685724 US <small>("Express Mail" Mailing Label Number)</small></div></div>				
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Serial No. TBA	Filing Date Filed Herewith	Examiner TBA	Group Art Unit TBA
Invention: DRAM VERTICAL TRANSISTOR AND TRENCH CAPACITOR MEMORY CELLS AND METHOD OF FABRICATION			
<p>I hereby certify that the following correspondence:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"><p>Utility Patent Application Transmittal Letter with Form PTO-2038/Authorization to Charge Credit Card in the amount of \$750.00 for filing fees (total 5 pages)</p></div> <p style="text-align: center;"><i>(Identify type of correspondence)</i></p> <p>is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on</p> <p style="margin-left: 150px;"><u>July 11, 2003</u> <small>(Date)</small></p> <div style="text-align: right; margin-top: 20px;"><p><u>Penny P. Clements</u> <small>(Typed or Printed Name of Person Mailing Correspondence)</small></p><p><u></u> <small>(Signature of Person Mailing Correspondence)</small></p><p><u>EU 938685724 US</u> <small>("Express Mail" Mailing Label Number)</small></p></div>			
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Invention: <b>DRAM VERTICAL TRANSISTOR AND TRENCH CAPACITOR MEMORY CELLS AND METHOD OF FABRICATION</b>			
<p>I hereby certify that the following correspondence:</p> <div style="border: 1px solid black; padding: 5px; min-height: 40px;"><p>Preliminary Amendment (6 pages)</p></div> <p style="text-align: center;"><i>(Identify type of correspondence)</i></p> <p>is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on</p> <p style="text-align: center;"><u>July 11, 2003</u> <i>(Date)</i></p> <div style="text-align: center; margin-top: 20px;"><p><b>Penny P. Clements</b> <i>(Typed or Printed Name of Person Mailing Correspondence)</i></p><div style="border-top: 1px solid black; width: 100%;"> <i>(Signature of Person Mailing Correspondence)</i></div><p><b>EU 938685724 US</b> <i>("Express Mail" Mailing Label Number)</i></p></div>			
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Serial No. TBA	Filing Date Filed Herewith	Examiner TBA	Group Art Unit TBA	
Invention: <b>DRAM VERTICAL TRANSISTOR AND TRENCH CAPACITOR MEMORY CELLS AND METHOD OF FABRICATION</b>				
<p>I hereby certify that the following correspondence:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"><b>Copy of Prior Application Recorded Assignment (total 4 pages)</b></div> <p style="text-align: center;"><i>(Identify type of correspondence)</i></p> <p>is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on</p> <p style="margin-left: 150px;"><u>July 11, 2003</u> <i>(Date)</i></p> <div style="text-align: right; margin-top: 20px;"><div style="margin-bottom: 5px;"><b>Penny P. Clements</b> <i>(Typed or Printed Name of Person Mailing Correspondence)</i></div><div style="margin-bottom: 5px;"> <i>(Signature of Person Mailing Correspondence)</i></div><div><b>EU 938685724 US</b> <i>("Express Mail" Mailing Label Number)</i></div></div>				
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Applicant(s): V. C. JaiPrakash, et al.

Docket No.

03P52507US (90035.211)

Serial No.  
TBAFiling Date  
Filed HerewithExaminer  
TBAGroup Art Unit  
TBAInvention: **DRAM VERTICAL TRANSISTOR AND TRENCH CAPACITOR MEMORY CELLS AND METHOD OF FABRICATION**

I hereby certify that the following correspondence:

Specification, Claims and Abstract (total 18 pages)

*(Identify type of correspondence)*

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July 11, 2003  
(Date)

Penny P. Clements

*(Typed or Printed Name of Person Mailing Correspondence)*  
*(Signature of Person Mailing Correspondence)*

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*("Express Mail" Mailing Label Number)***Note: Each paper must have its own certificate of mailing.**

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Applicant(s): V. C. JaiPrakash, et al.

Docket No.

03P52507US (90035.211)

Serial No.

TBA

Filing Date  
Filed Herewith

Examiner

TBA

Group Art Unit

TBA

Invention: **DRAM VERTICAL TRANSISTOR AND TRENCH CAPACITOR MEMORY CELLS AND METHOD OF FABRICATION**

I hereby certify that the following correspondence:

Nineteen (19) Sheets Formal Drawings (identified)

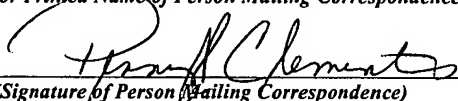
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Penny P. Clements

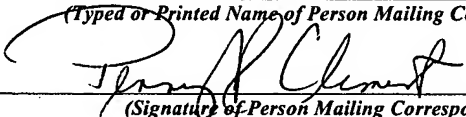
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<p>I hereby certify that the following correspondence:</p> <div style="border: 1px solid black; padding: 5px; min-height: 40px;"><b>Information Disclosure Statement with Form PTO-1449 (total 3 pages)</b></div> <p style="text-align: center;"><i>(Identify type of correspondence)</i></p> <p>is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on</p> <p style="text-align: center;"><u>July 11, 2003</u> (Date)</p> <div style="text-align: right; margin-top: 20px;"><p><b>Penny P. Clements</b> <i>(Typed or Printed Name of Person Mailing Correspondence)</i></p><div style="border-top: 1px solid black; width: 150px; margin: 0 auto;"> <i>(Signature of Person Mailing Correspondence)</i></div><p><b>EU 938685724 US</b> <i>("Express Mail" Mailing Label Number)</i></p></div>				
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